## IN THE CLAIMS

Please amend the claims as follows.

1. (Previously Presented) A DSL transceiver comprising:

a receive section that receives a DSL signal from a DSL channel when the DSL transceiver is connected;

a transmit section that transmits a DSL signal to the DSL channel when the DSL transceiver is connected;

a controller that detects whether the DSL transceiver has not received valid data over the DSL channel for a first predetermined period of time indicating an idle period and detects expiration of a second period of time triggering an end of the idle period; and

a selective processing subsection of the receive section that omits at least some of the processing for reception of valid data from the DSL channel when the controller detects that the DSL transceiver has not received valid data over the DSL channel for the first predetermined period of time and resumes operation of the omitted processing when the controller detects expiration of the second period of time.

2. (Previously Presented) The DSL transceiver of claim 1, wherein the DSL transceiver is a host-signal processing based DSL transceiver.

3. (Previously Presented) The DSL transceiver of claim 1, further comprising state logic to place the selective processing subsection into a normal state, a sleep state or a warmup state, wherein the warmup state is entered after exiting the sleep state and before entering the normal state, and wherein in the warmup state the DSL transceiver resumes a subset, but not all, of the processing omitted.

4. (Canceled)

5. (Previously Presented) The DSL transceiver of claim 3, wherein the controller comprises a state logic that, in response, to the controller determining to resume operation of the omitted processing, places the selective processing subsection into a state in which the subsection resumes operation of some, but not all, of the omitted processing before transitioning to a state where the subsection resumes operation of all of the omitted processing.

6. (Previously Presented) The DSL transceiver of claim 3, wherein after the selective processing subsection resumes operation of all of the omitted processing, the controller determines to again place the subsection in the state in which the subsection omits at least some of the processing, in response to the controller determining that the DSL transceiver has not received valid data for a third predetermined period of time.

7. (Previously Presented) The DSL transceiver of claim 1, wherein the controller detects whether the DSL transceiver has not received or transmitted valid data over the DSL channel by determining whether valid data has been received at an ATM protocol layer.

8. (Previously Presented) The DSL transceiver of claim 1, wherein the controller detects whether the DSL transceiver has received or transmitted valid data over the DSL channel by monitoring IP packet traffic at an IP-ATM interface.

9. (Previously Presented) A method for use in a DSL communications system comprising:
receiving a DSL signal from a DSL channel;
transmitting a DSL signal to a DSL channel;
processing data in the received DSL signal;
detecting the reception of non-valid data over the DSL channel for a first predetermined period of time indicating an idle period and expiration of a second period of time triggering an end of the idle period; and

omitting at least some of the processing of the data in the received DSL signal in response to detecting the reception of non-valid data over the DSL channel for the first predetermined period of time and resuming operation of the omitted processing in response to detecting the expiration of the second period of time.

10. (Previously Presented) The method of claim 9, wherein the DSL communications system is a host-signal processing based DSL transceiver.

11. (Previously Presented) The method of claim 9, further comprising:

placing the DSL communications system into a sleep state in response to the detecting of non-valid data received over the DSL channel for the first period of time;

placing the DSL communications system into a warmup state after existing the sleep state, wherein in the warmup state the DSL communications system resumes a subset, but not all, of the omitted processing; and

placing the DSL communications system into a normal state after exiting the warmup state.

12. (Canceled)

13. (Previously Presented) The method of claim 11, further comprising:

entering, in response to determining to resume operation of the omitted processing, a state in which the DSL communications system resumes operation of some, but not all, of the omitted processing before transitioning to a state wherein all of the omitted processing is resumed.

14. (Previously Presented) The method of claim 13, further comprising:

detecting the reception of non-valid data for a third predetermined period of time after resuming operation of the omitted processing; and

determining to again omit at least some of the processing in response to detecting the reception of idle data for the third period of time.

15. (Previously Presented) The method of claim 9, wherein the step of detecting the reception of non-valid data over the DSL channel for the first predetermined period of time comprises detecting whether valid data has not been received at an ATM protocol layer.

16. (Previously Presented) The method of claim 9, wherein the step of detecting the reception of non-valid data over the DSL channel for the first predetermined period of time channel comprises monitoring IP packet traffic at an IP-ATM interface.

17. (Previously Presented) A system for DSL communications comprising:

means for receiving a DSL signal from a DSL channel;

means for transmitting a DSL signal to a DSL channel;

means for processing data in the received DSL signal;

means for detecting reception of non-valid data over the DSL channel for a first predetermined period of time indicating an idle period and expiration of a second period of time triggering an end of the idle period; and

means for omitting at least some of the processing of the data in the received DSL signal in response to detecting the reception of non-valid data over the DSL channel for the first predetermined period of time to initiate an idle period and resuming operation of the omitted processing in response to detecting expiration of the second period of time.

18. (Previously Presented) The system of claim 17, wherein the system is a host-signal processing based DSL transceiver.

19. (Previously Presented) The system of claim 17, further comprising:

means for placing the DSL communications system into a sleep state in response to the detecting of non-valid data received over the DSL channel for the first period of time;

means for placing the DSL communications system into a warmup state after exiting the sleep state, wherein in the warmup state the system resumes a subset, but not all, of the omitted processing; and

means for placing the system into a normal state after exiting the warmup state.

20. (Canceled)

21. (Previously Presented) The system of claim 19, further comprising:

means for entering, in response to determining a resume operation of the omitted processing, a state in which the DSL communications system resumes operation of some, but not all, of the omitted processing before transitioning to a state wherein all of the omitted processing is resumed.

22. (Previously Presented) The system of claim 21, further comprising:

means for detecting the reception of non-valid data for a third predetermined period of time after resuming operation of the omitted processing; and

means for determining to again omit at least some of the processing in response to detecting the reception of idle data for the third period of time.

23. (Previously Presented) The system of claim 17, wherein the means for detecting the reception of non-valid data over the DSL channel for the first predetermined period of time comprises means for detecting whether valid data has been received at an ATM protocol layer.

24. (Previously Presented) The system claim 17, wherein the means for detecting the reception of non-valid data over the DSL channel for the first predetermined period of time comprises means for monitoring IP packet traffic at an IP-ATM interface.

25. (Previously Presented) A system for DSL communication comprising:

a transmit section for transmitting a DSL signal to a DSL channel;

a receive section for receiving the DSL signal from the DSL channel;

a data traffic detector that detects whether no data traffic is transmitted over the DSL channel indicating an idle period and whether a sleep period has expired triggering an end of the idle period; and

a mode selection subsection of the receive section that omits a plurality of processing for responding to the data traffic in response to the data traffic detector detecting that there is no data traffic over the DSL channel and resuming at least one of the omitted processing in response to the data traffic detector detecting expiration of the sleep period.

26. (Previously Presented) The system of claim 25, wherein the mode selection subsection further resumes at least one of the omitted processing in response to the data traffic detector detecting that there is data traffic over the DSL channel.

27. (Previously Presented) The system of claim 26, wherein the mode selection subsection further resumes only some of the omitted processing in response to the data traffic.

28. (Previously Presented) The system of claim 26, wherein the mode selection subsection further resumes all of the omitted processing in response to the data traffic.

29. (Previously Presented) The system of claim 25, wherein the mode selection subsection further resumes at least one of the omitted processing when the omitted processing have been omitted for a time period associated with communication of non-valid data.

30. (Previously Presented) The system of claim 29, wherein the mode selection subsection further resumes only some of the omitted processing when the omitted processing has been omitted for a time period associated with communication of non-valid data.

31. (Previously Presented) The system of claim 29, wherein the mode selection subsection further resumes all of the omitted processing when the omitted processing has been omitted for a time period associated with communication of non-valid data.

32. (Previously Presented) The system of claim 29, wherein a length of the time period associated with communication of non-valid data is predetermined.

33. (Previously Presented) The system of claim 32, wherein the length of the time period associated with communication of non-valid data is fixed.

34. (Previously Presented) The system of claim 29, wherein the length of the time period associated with communication of non-valid data is changeable.

35. (Previously Presented) The system of claim 25, wherein the data traffic detector detects valid data transmitted over the DSL channel.

36. (Previously Presented) The system of claim 25, wherein the data traffic detector detects Internet Protocol (IP) packets.

37. (Previously Presented) A DSL communication method comprising:

detecting whether there is no data traffic over a DSL channel; and

omitting a plurality of processing for responding to the data traffic if there is no data traffic over the DSL channel for a first period of time indicating the idle period and resuming the omitted processing if a second time period expires triggering an end of the idle period.

38. (Previously Presented) The system of claim 37, wherein the method further comprises: resuming at least one of the omitted processing in response to data traffic being detected over the DSL channel.

39. (Previously Presented) The system of claim 38, wherein the method further comprises: resuming only some of the omitted processing in response to data traffic being detected over the DSL channel.

40. (Previously Presented) The system of claim 38, wherein the method further comprises: resuming all of the omitted processing in response to data traffic being detected over the DSL channel.

41. (Previously Presented) The method of claim 37, wherein the method further comprises: resuming at least one of the omitted processing when the omitted processing has been omitted for a time period associated with communication of non-valid data traffic.

42. (Previously Presented) The method of claim 41, wherein the method further comprises: resuming only some of the omitted processing when the omitted processing has been omitted for a time period associated with communication of non-valid data traffic.

43. (Previously Presented) The method of claim 41, wherein the method further comprises: resuming all of the omitted processing when the omitted processing has been omitted for a time period associated with communication of non-valid data traffic.

44. (Previously Presented) The method of claim 41, wherein a length of the time period associated with communication of non-valid data traffic is predetermined.

45. (Previously Presented) The method of claim 41, wherein the length of the time period associated with communication of non-valid data traffic is fixed.

46. (Previously Presented) The method of claim 41, wherein the length of the time period associated with communication of non-valid data traffic is changeable.

47. (Previously Presented) The method of claim 37, further comprising:
detecting valid data as the detected data traffic.

48. (Previously Presented) The method of claim 37, further comprising:
detecting Internet Protocol (IP) packets as the detected data traffic.

49. (Cancelled)

50. (Currently Amended) ~~The communication device of claim 49~~ A communication device comprising:
a receiving unit to receive valid data or non-valid data on a channel;
a transmitting unit to transmit valid data or non-valid data on the channel; and
a controller to perform a plurality of operations for processing valid data or non-valid data and to omit some of the operations if non-valid data is received for a first period of time indicating an idle period, wherein the controller resumes the omitted operations after expiration of a second period of time triggering an end of the idle period.

51. (Previously Presented) The communication device of claim 50, wherein the controller performs operations in a normal mode, sleep mode, and warm up mode.